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PRE-APPEAL BRIEF REQUEST FOR REVIEW	Docket Number (Optional) 13744*18 (H6244US)	
	Application Number 10/589,455-Conf. #7178	Filed October 6, 2006
	First Named Inventor Wilfried Rähse	
	Art Unit 1796	Examiner M. R. Asdjodi

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
Note: No more than five (5) pages may be provided.

I am the

☐ applicant /inventor.

☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

☒ attorney or agent of record.
Registration number 42,516

☐ attorney or agent acting under 37 CFR 1.34.
Registration number if acting under 37 CFR 1.34. ______

______
Signature

Aaron R. Ettelman
Typed or printed name

(302) 658-9141
Telephone number

______
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☐ *Total of 1 forms are submitted.

REMARKS ACCOMPANYING REQUEST FOR PRE-APPEAL BRIEF REVIEW

Claims 58, 60-65, 68, 71-77 and 80-81 are currently pending in the instant application.

Final Rejections:

- In the Office Action dated May 20, 2008 (Paper No. 20080514, hereinafter referred to as "the final Office Action"), the Examiner rejects claims 58, 60-65, 68 and 71-76 under 35 U.S.C. §103(a), as being unpatentable over U.S. Patent No. 4,559,169 of Wevers, *et al.* ("Wevers"), in view of U.S. Patent Application Publication No. US 2004/0138086 of Cooper, *et al.* ("Cooper").
- Additionally, in the final Office Action, the Examiner rejects claims 77 and 80-81 under 35 U.S.C. §103(a), as being unpatentable over Wevers.

Advisory Action:

Applicant respectfully traversed the Examiner's obviousness rejections and the arguments and contentions set forth in support thereof in a Request for Reconsideration After Final filed on August 20, 2008. In an Advisory Action dated August 28, 2008, the Examiner responded to Applicant's Request for Reconsideration, and maintained the two above-mentioned obviousness rejections.

In the Advisory Action, the Examiner states,

> Regarding [Applicant's] argument with respect to natural oil and alleged lack of its presence in Wevers et al.'s liquid detergent composition **it should be noted that the term natural oil is used for any plant, fruit, seeds, or vegetable derived oils which could be in solid or liquid form and are called fatty acids**, regardless of being saturated or unsaturated. Wevers et al. teach such a natural oil in their composition. Therefore **the oleic acid of example XIV [of Wevers] is considered, and construed as, a natural oil which is actually the main ingredient in olive oil.** (See, Advisory Action, p. 2 (*emphasis added*)).

Applicant's Response:

The instant application contains two independent claims, namely claims 58 and 77.

Claim 58 reads, with emphasis added, as follows:

A method comprising:

(a) providing a microemulsion comprising ***a natural oil*** and an emulsifier system, wherein the emulsifier system comprises a hydrophilic emulsifier, a lipophilic cationic emulsifier, and 40 to 90 wt% of water, wherein the hydrophilic emulsifier comprises an ethoxylated fatty alcohol; and

(b) contacting a fabric with the microemulsion in an automatic washing machine during a rinse cycle.

Claim 77 reads, with emphasis added, as follows:

A microemulsion comprising: ***a natural oil***, an antioxidant, and an emulsifier system; wherein the emulsifier system comprises a hydrophilic emulsifier, a lipophilic emulsifier, and 40 to 90 wt% of water, wherein the hydrophilic emulsifier comprises an ethoxylated fatty alcohol; and wherein the microemulsion has a droplet size d_{50} less than 500 nm.

Applicant respectfully submits that the Examiner's contentions regarding the teachings of Wevers and the "equating" of a fatty acid and a natural oil are factually inaccurate. Specifically,

(1) The Examiner's contention that "a natural oil" is "called" a fatty acid is incorrect.
(2) The Examiner's contention that "the oleic acid of example XIV [of Wevers] is . . . a natural oil" is incorrect.

Natural oils are comprised of <u>glycerides</u> of fatty acids. In other words, such oils comprise triglycerides of fatty acids (and sometimes mono- and/or di-glycerides as well). Such glycerides are glycerol moieties esterified with one, two or three fatty acid groups. Fatty acids can be obtained <u>FROM</u> such oils by hydrolysis (*i.e.*, a fat-splitting reaction of the glycerides) which separates the fatty acids from the glycerol backbone. ***The clear distinction by definition between fatty acids and natural oils is a matter of textbook organic chemistry.*** (*See, e.g.*, F. Carey, <u>Organic Chemistry</u>, 2nd Ed., pp. 818-819, McGraw-Hill (1992), copy attached). There is no valid basis for the Examiner's ***equating*** fatty acids with natural oils.

The Examiner contends that Wevers teaches a microemulsion detergent composition which comprises a natural ***oil***. Wevers discloses that the compositions described therein may contain from about 3% to about 30% of ***a fatty acid*** having from about 10 to about 22 carbon atoms. (*See*, col. 6, lines 17-35). *Wevers goes on to note that* ***suitable saturated fatty acids can be obtained from*** *natural sources such as plant or animal esters (e.g., stripped palm kernel oil, stripped palm oil and coconut oil).* It is clear that the reference to "oils" in Wevers is to the triglycerides FROM WHICH the disclosed fatty acids "can be obtained."

The fatty acids suitable for use in the compositions of Wevers may be ***derived from plant or animal oils***. In contrast to the present invention, Wevers discloses only the inclusion of ***a fatty acid component***. This is NOT a teaching or suggestion of the inclusion of a natural oil in the composition. The *fatty acids derived from such oils* are the result of the fat-splitting of the fatty acid component from the glycerol backbone. The present invention comprises a natural oil component, *i.e.*, the whole oil, meaning the unsplit glyceride having one or more fatty acid moieties bonded to a glycerol backbone.

As to Example XIV of Wevers, Applicant respectfully traverses the Examiner's contention that the oleic acid disclosed therein is "a natural oil." In the Advisory Action, the Examiner contends that oleic acid is the main ingredient in olive oil, and therefore, the recitation of oleic acid as a fatty acid component in Example XIV of Wevers is a teaching of a natural oil, as claimed. This too is inaccurate. Oleic acid is one of the fatty acids present in the triglycerides of olive oil. However, olive oil is NOT oleic acid. As discussed above, and as is well understood by those of ordinary skill in the art, oleic acid can be obtained from olive oil by subjecting the oil to hydrolysis whereby the oleic acid moieties can be separated from the glycerol backbone of the triglycerides present in the oil. The recitation of "oleic acid" in Example XIV of Wevers is in no way a teaching or suggestion to incorporate olive oil in the composition disclosed therein.

Thus, the Examiner's contention that Wevers teaches a detergent composition in the form of a microemulsion containing a natural oil is inaccurate.

Furthermore, in the final Office Action, the Examiner contends that Wevers discloses contacting a fabric with the compositions described therein, and rinsing. The sole recitation of "rinsing" in Wevers, at col. 12, line 58. While this single mention in Wevers may suggest the rinsing of a fabric ***after application*** of the compositions disclosed therein, this is far from a disclosure or a suggestion to one of ordinary skill in the art that the compositions described therein *be applied to a fabric while rinsing*. **In the methods of Applicant's claimed invention, the microemulsion composition comprising the natural oil, emulsifier system and water is contacted with a fabric in a washing machine during a rinse cycle**. The exact words of the Wevers reference are as follows: "1 ml of product applied + rub + rinse." (*See*, Wevers, col. 12, line 58). Such removal of the previously applied product is not suggestive of applying the composition *during the rinsing*.

The cited references fail to teach or suggest a microemulsion composition which comprises a natural oil, and there is no reason why one of ordinary skill in the art would be motivated to deviate from the specific teachings of Wevers by using a fatty *oil* component *in place of the specifically recited fatty acid* which can be derived from an oil. Moreover, one of ordinary skill in the art would have no reasonable expectation of successfully treating a fabric *during a rinse cycle* with the compositions of Wevers based on the single mention of rinsing the applied product from a fabric after application of the product, rather than during rinsing, as claimed.

Accordingly, reconsideration and withdrawal of the rejections and a Notice of Allowance as to all pending claims are respectfully requested.

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SECOND EDITION

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Figure 13.26 is courtesy of the National Institutes of Health.

Mass spectra are reproduced with permission from "EPA/NIH Mass Spectral Data Base," Supplement I, S. R. Heller and G. W. A. Milne, National Bureau of Standards, 1980.

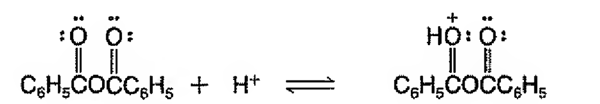
Figure 13.34 is adapted from R. Isaksson, J. Roschester, J. Sandstrom, and L.-G Wistrand, Journal of the American Chemical Society, **1985**, *107*, 4074–4075 with permission of the American Chemical Society.

Figure 27.19 is adapted with permission from F. A. Quiocho and W. N. Lipscomb in "Advances in Protein Chemistry," Volume 25, C. B. Anfinsen, Jr., J. T. Edsall, and F. M. Richards, Editors, Academic Press, New York, NY, 1971.

Figure 27.22 is adapted with permission from Richard E. Dickerson in "The Proteins," second edition, Volume II, H. Neurath, Editor, Academic Press, New York, NY, 1964.

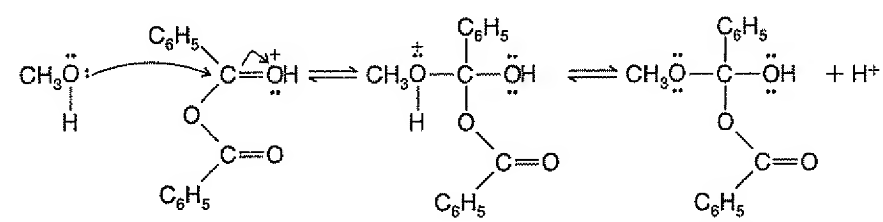
PROBLEM 20.8 Write the structure of the tetrahedral intermediate formed in each of the reactions given in Problem 20.7. Using curved arrows, show how each tetrahedral intermediate dissociates to the appropriate products.

SAMPLE SOLUTION *(a)* The reaction given is the acid-catalyzed esterification of methanol by benzoic anhydride. The first step is the activation of the anhydride toward nucleophilic addition by protonation.

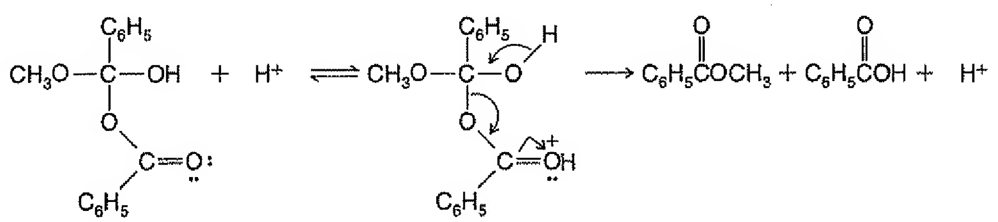


Benzoic anhydride Proton Protonated form of benzoic anhydride

The tetrahedral intermediate is formed by nucleophilic addition of methanol to the protonated carbonyl group.



Methanol Protonated form of benzoic anhydride Tetrahedral intermediate

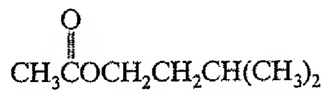


Tetrahedral intermediate Proton Methyl benzoate Benzoic acid Proton

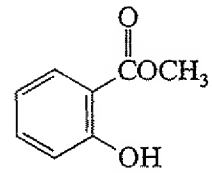
Acid anhydrides are more stable and less reactive than acyl chlorides. Acetyl chloride, for example, undergoes hydrolysis about 10^5 times more rapidly than acetic anhydride at 25°C.

20.6 SOURCES OF ESTERS

Many esters are naturally occurring substances. Those of low molecular weight are fairly volatile, and many have pleasing odors. Esters often comprise a significant fraction of the fragrant oil of fruits and flowers.

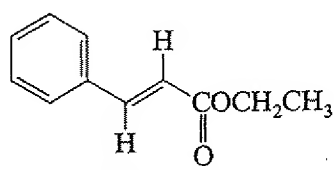


3-Methylbutyl acetate
(contributes to characteristic
odor of bananas)

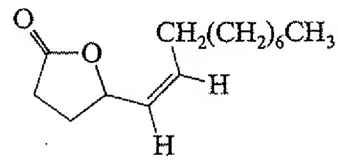


Methyl salicylate
(principal component of oil
of wintergreen)

Among the chemicals used by insects to communicate with one another, esters occur frequently.



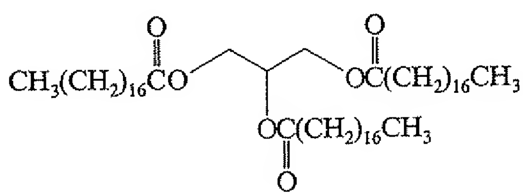
Ethyl cinnamate
(one of the constituents of
the sex pheromone of the
male Oriental fruit moth)



(Z)-5-Tetradecen-4-olide
(sex pheromone of female
Japanese beetle)

Notice that (*Z*)-5-tetradecen-4-olide is a cyclic ester. Recall from Section 19.15 that cyclic esters are called *lactones* and that the suffix *-olide* is characteristic of IUPAC names for lactones.

Esters of glycerol, called *glycerol triesters, triacylglycerols,* or *triglycerides,* are abundant natural products. The most important group of glycerol triesters includes those in which each acyl group is unbranched and has 14 or more carbon atoms.



Tristearin, a trioctadecanoyl ester of glycerol found in many animal and vegetable fats (the three carbons and three oxygens of glycerol are shown in red)

Fats and **oils** are naturally occurring mixtures of glycerol triesters. Fats are mixtures that are solids at room temperature; oils are liquids. The long-chain carboxylic acids obtained from fats and oils by hydrolysis are known as **fatty acids.**

The principal methods used to prepare esters in the laboratory have all been described earlier, and are summarized in Table 20.4.

20.7 PHYSICAL PROPERTIES OF ESTERS

Esters are moderately polar, with dipole moments in the 1.5- to 2.0-D range. Dipole-dipole interactions contribute to the intermolecular attractive forces that cause esters to have higher boiling points than hydrocarbons of similar shape and molecular weight. Because they lack hydroxyl groups, ester molecules cannot form hydrogen bonds to each other; consequently, esters have lower boiling points than alcohols of comparable molecular weight.